

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Original) A semiconductor device comprising:

a first base region which is of a first conductivity type;

a second base region which is of a second conductivity type and which is selectively formed on a major surface of the first base region;

a stopper region which is of a first conductivity type and which is formed on the major surface of the first base region, the stopper region being a predetermined distance away from the second base region and surrounding the second base region; and

a ring region which is of a second conductivity type which is formed on the major surface of the first base region between the second base region and the stopper region, the ring region being spirally around the second base region and electrically connected to the second base region and the stopper region.

2. (Original) The semiconductor device according to claim 1, wherein the ring regions are plural and formed in parallel, each of the plural ring regions being connected to the second base region and the stopper region.

3. (Original) The semiconductor device according to claim 1, wherein a resistance of the ring region becomes lower from a side of the second base region toward a side of the stopper region.

4. (Original) The semiconductor device according to claim 1, further comprising a sense electrode electrically connected to a part of the ring region, the sense electrode being used for detecting a divided voltage applied to the stopper region.

5. (Original) The semiconductor device according to claim 1, wherein a circular ring portion, which is surrounding the second base region in a circular ring shape and connected to the second base region, is formed in an inner most circumferential portion of the ring region on the major surface of the first base region, and the ring region is connected to the second base region via the circular ring portion.

6. (Original) The semiconductor device according to claim 1,
wherein corner auxiliary members are formed in corner portions of the ring region, the corner auxiliary members being electrically connected to the ring region and having a resistance lower than the ring region, and

wherein lengths of straight portions which are portions of the ring region excluding the corner portions are equal irrespective of whether the straight portions are on an inner circumferential side or on an outer circumferential side.

7. (Original) The semiconductor device according to claim 1, wherein V_{BD}/R_{ring} which is a leak current I_{leak} is designed to be equal to 1 mA/cm^2 or less, where V_{BD} is a withstand voltage of the semiconductor device and R_{ring} is a resistance of the entire ring region.

8. (Canceled)

9. (Canceled)

10. (Canceled)

11. (Canceled)

12. (Canceled)

13. (Canceled)

14. (Canceled)

15. (Canceled)

16. (Canceled)

17. (Canceled)

18. (New) The semiconductor device according to claim 7, wherein the ring regions are plural and formed in parallel, each of the plural ring regions being connected to the second base region and the stopper region.

19. (New) The semiconductor device according to claim 7, wherein a resistance of the ring region becomes lower from a side of the second base region toward a side of the stopper region.

20. (New) The semiconductor device according to claim 7, further comprising a sense electrode electrically connected to a part of the ring region, the sense electrode being used for detecting a divided voltage applied to the stopper region.

21. (New) The semiconductor device according to claim 7, wherein a circular ring portion, which is surrounding the second base region in a circular ring shape and connected to the second base region, is formed in an inner most circumferential portion of the ring region on the major surface of the first base region, and the ring region is connected to the second base region via the circular ring portion.

22. (New) The semiconductor device according to claim 7,

wherein corner auxiliary members are formed in corner portions of the ring region, the corner auxiliary members being electrically connected to the ring region and having a resistance lower than the ring region, and

wherein lengths of straight portions which are portions of the ring region excluding the corner portions are equal irrespective of whether the straight portions are on an inner circumferential side or on an outer circumferential side.